

AB-311U

10/730,689

RECEIVED  
CENTRAL FAX CENTER  
SEP 08 2006

IN THE CLAIMS:

Please amend the claims as follows:

1. (currently amended) A method for treating a patient with peripheral vascular disease (PVD) or angina, comprising:

- providing a miniature leadless implantable stimulator with at least one electrode and with a size and shape suitable for placement entirely within the spinal column;
- implanting the stimulator within said spinal column and adjacent to at least one tissue influencing blood circulation, which tissue is at least one of the spinal roots;
- providing operating power to the stimulator;
- using an external appliance to transmit stimulation parameters to the stimulator;
- receiving the stimulation parameters at the stimulator;
- generating stimulation pulses in accordance with the stimulation parameters,

which pulses are generated by the stimulator;

- delivering stimulation pulses via the stimulator to the at least one of the spinal roots influencing blood circulation as a treatment for PVD or angina.

2. (original) The method of Claim 1 further comprising delivering stimulation pulses to at least one of the lumbar dorsal roots, lumbar ventral roots, sacral dorsal roots, and sacral ventral roots as a treatment for PVD of at least one lower limb.

3. (original) The method of Claim 1 further comprising delivering stimulation pulses to at least one of the cervical dorsal roots, cervical ventral roots, thoracic dorsal roots, and thoracic ventral roots as a treatment for PVD of at least one upper limb.

4. (original) The method of Claim 1 further comprising delivering excitatory stimulation pulses to increase peripheral blood circulation as a treatment for PVD.

AB-311U

10/730,689

5. (original) The method of Claim 1 further comprising delivering stimulation pulses to at least one of the cervical dorsal roots, cervical ventral roots, thoracic dorsal roots, and thoracic ventral roots as a treatment for angina.

6. (original) The method of Claim 5 further comprising delivering excitatory stimulation pulses to increase coronary blood circulation as a treatment for angina.

7. (original) The method of claim 1 wherein the implantable stimulator further comprises at least one sensor and the method further comprises sensing at least one condition of the patient.

8. (original) The method of claim 7 wherein the at least one sensed condition is used to adjust the stimulation parameters.

9. (original) The method of claim 8 wherein the parameter adjustment is performed using the at least one external appliance.

10. (original) The method of claim 8 wherein the parameter adjustment is performed by the implantable stimulator.

11. (original) The method of Claim 1 further comprising  
providing at least one sensor;  
using the at least one sensor to sense a physical condition; and  
adjusting the stimulation parameters based on the sensed condition.

12. (currently amended) A method for treating a patient with ~~peripheral vascular disease (PVD)~~ or angina, comprising:  
providing a miniature implantable stimulator with at least one electrode and with a size and shape suitable for placement of the entire stimulator within the spinal column;

AB-311U

10/730,689

implanting the stimulator adjacent to at least one tissue influencing blood circulation, which tissue is at least one of the spinal roots;  
providing operating power to the stimulator;  
using an external appliance to transmit stimulation parameters to the stimulator;  
receiving the stimulation parameters at the stimulator;  
generating stimulation pulses in accordance with the stimulation parameters, which pulses are generated by the stimulator;  
delivering stimulation pulses via the stimulator to the at least one of the spinal roots influencing blood circulation as a treatment for ~~PVD of~~ said angina.

13. (currently amended) The method of Claim 12 further comprising delivering stimulation pulses to the cervical or thoracic spinal cord dorsal column ~~at least one of the lumbar dorsal roots, lumbar ventral roots, sacral dorsal roots, and sacral ventral roots~~ as a treatment for angina ~~PVD of at least one lower limb~~.

14. (currently amended) The method of Claim 12 further comprising delivering stimulation pulses to at least one of the a cervical root or a dorsal roots, ~~cervical ventral roots, thoracic root dorsal roots, and thoracic ventral roots~~ as a treatment for angina ~~PVD of at least one upper limb~~.

15. (currently amended) The method of Claim 12 further comprising delivering excitatory stimulation pulses ~~to increase peripheral blood circulation~~ as a treatment for angina ~~PVD~~.

16. (original) The method of Claim 12 further comprising delivering stimulation pulses to at least one of the cervical dorsal roots, cervical ventral roots, thoracic dorsal roots, and thoracic ventral roots as a treatment for angina.

AB-311U

10/730,689

17. (currently amended) The method of ~~Claim 16~~ Claim 15 further comprising delivering excitatory stimulation pulses with an amplitude of less than about 15 mA to increase coronary blood circulation as a treatment for angina.

18. (original) The method of claim 12 wherein the implantable stimulator further comprises at least one sensor and the method further comprises sensing at least one condition of the patient.

19. (original) The method of claim 18 wherein the at least one sensed condition is used to adjust the stimulation parameters.

20. (original) The method of Claim 12 further comprising  
providing at least one sensor;  
using the at least one sensor to sense a physical condition; and  
adjusting the stimulation parameters based on the sensed condition.

21. (new) The method of claim 15 further comprising delivering excitatory stimulation pulses with a frequency of less than 100 Hz as a treatment for angina.

22. (new) The method of claim 1 wherein said stimulation pulses are delivered with a frequency of less than 100 Hz.

23. (new) The method of claim 1 wherein said stimulation pulses are delivered with an amplitude of less than about 15 mA.

AB-311U

10/730,889

24. (new) The method of claim 7 wherein said at least one sensed condition comprises any change in dorsal column activity as an indicator of PVD.

25. (new) The method of Claim 1 further comprising delivering stimulation pulses to the cervical dorsal roots or cervical ventral roots as a treatment for angina.